



How SNWA is Addressing Climate Change

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Source: Ethan Miller

Smoke from Carpenter 1 Fire July 2013

8/25/2014

Talk Outline

- Why climate change is a challenge to planners
- SNWA activities
- WUCA activities

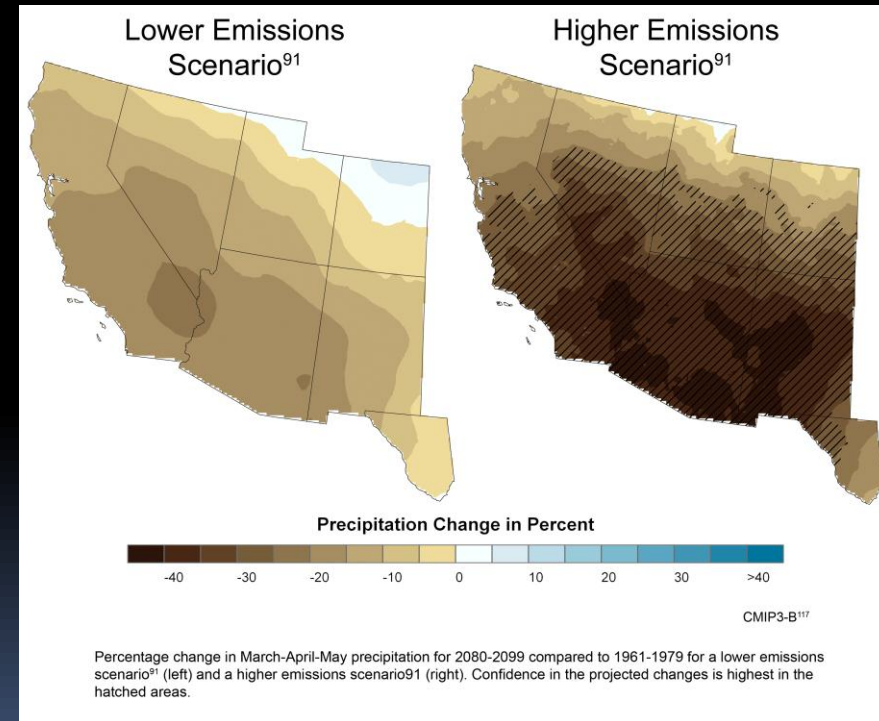
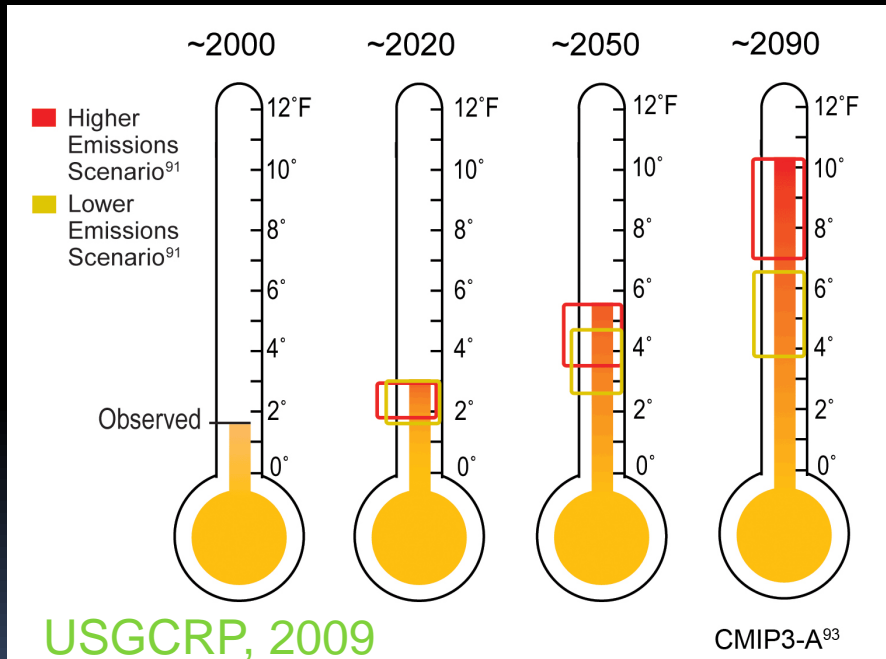


Source: AP/JulieJacobson

Floating in Lake Mead July.2014

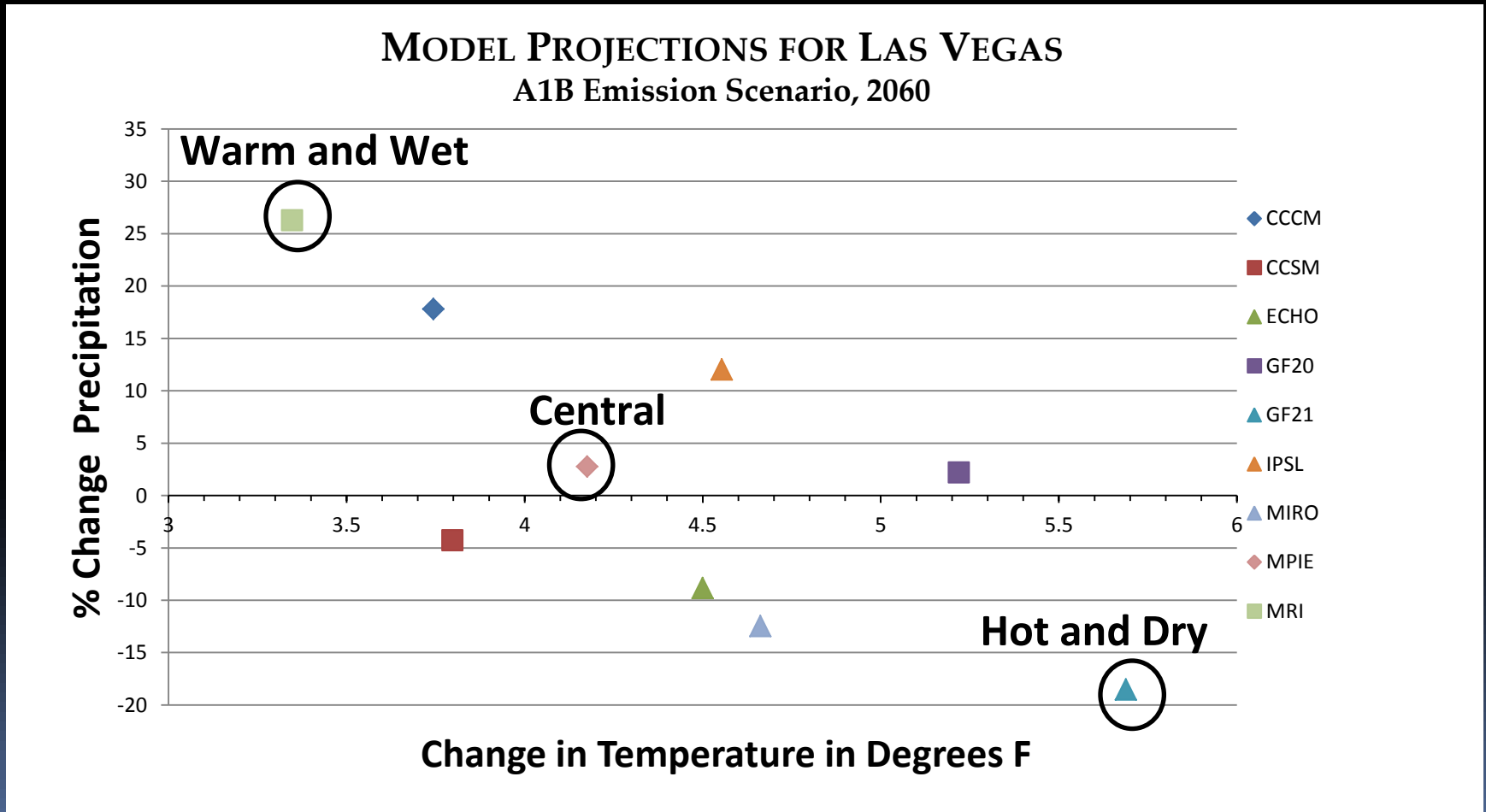
Vision 2050: Hot and Dry

- Projected rise in temperature for the Southwest
- Projected precipitation changes (%) by 2099



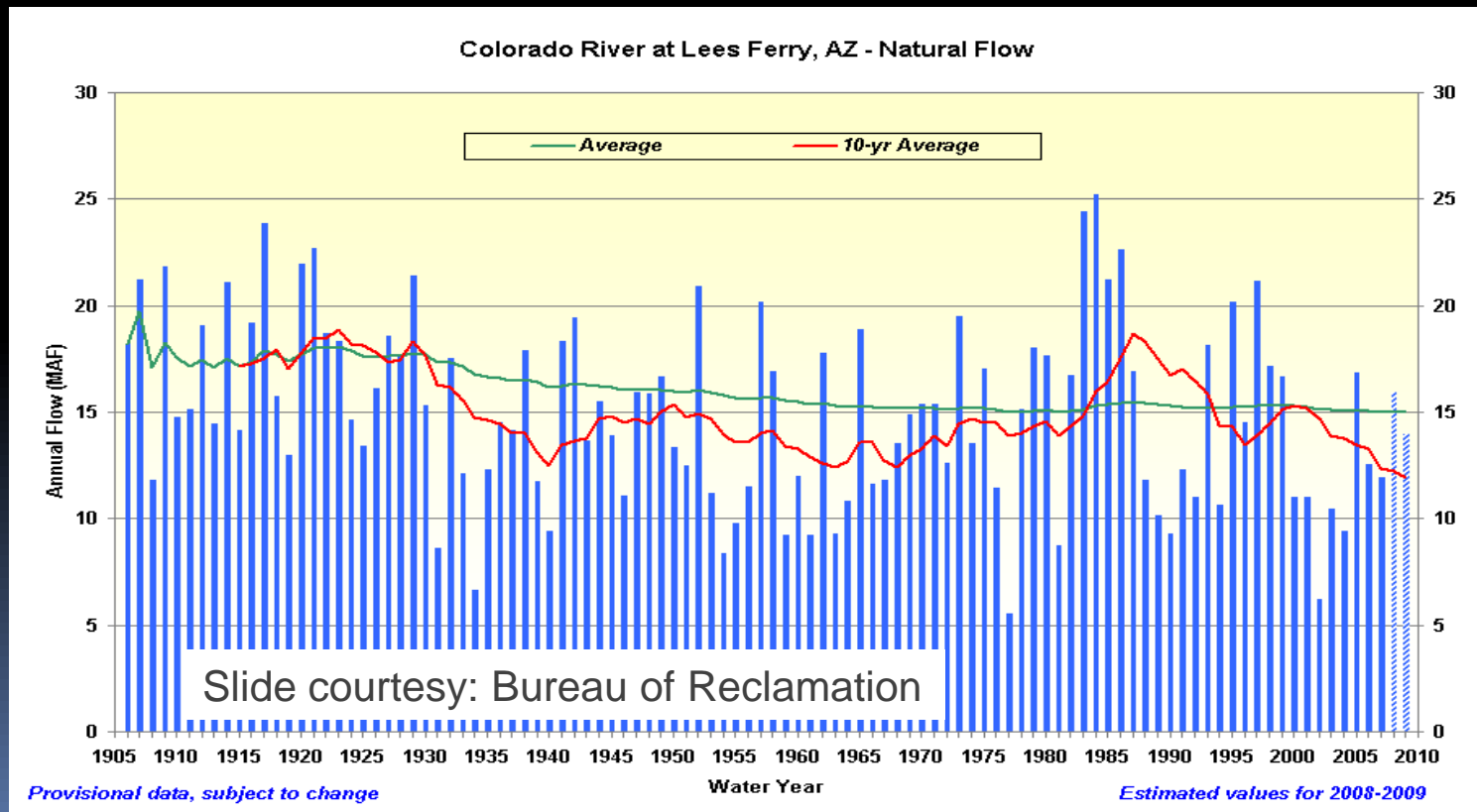
Climate Change Planning

- Which Scenario? Which Model? Ensemble? Remove “bad models”?

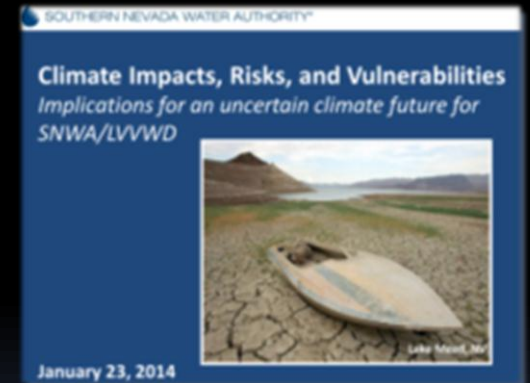


Traditional Water Supply Planning

- Based on observed weather and hydrology
- Assumes historic variability, history repeats, stationary climate

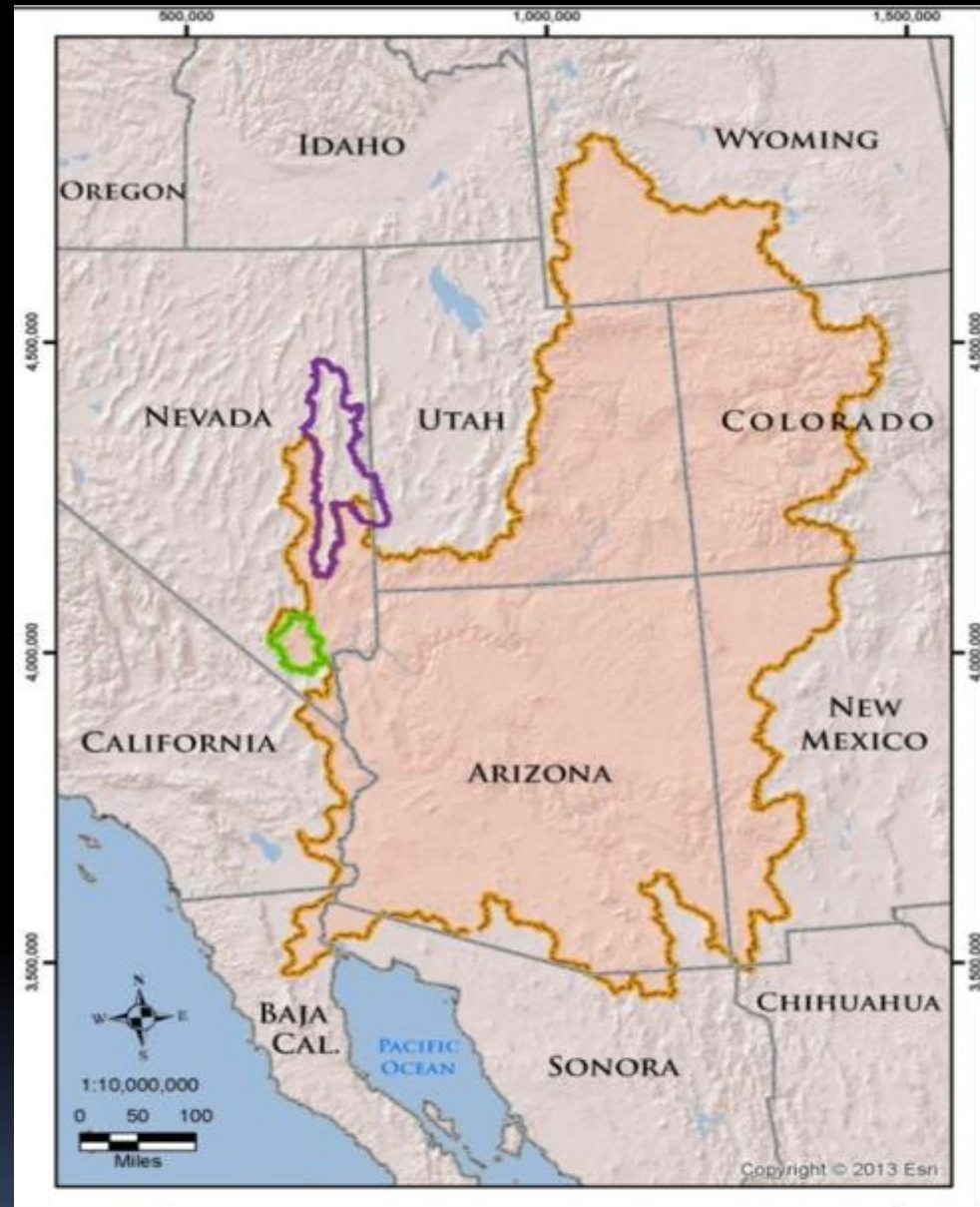


SNWA Climate Change Research Activities



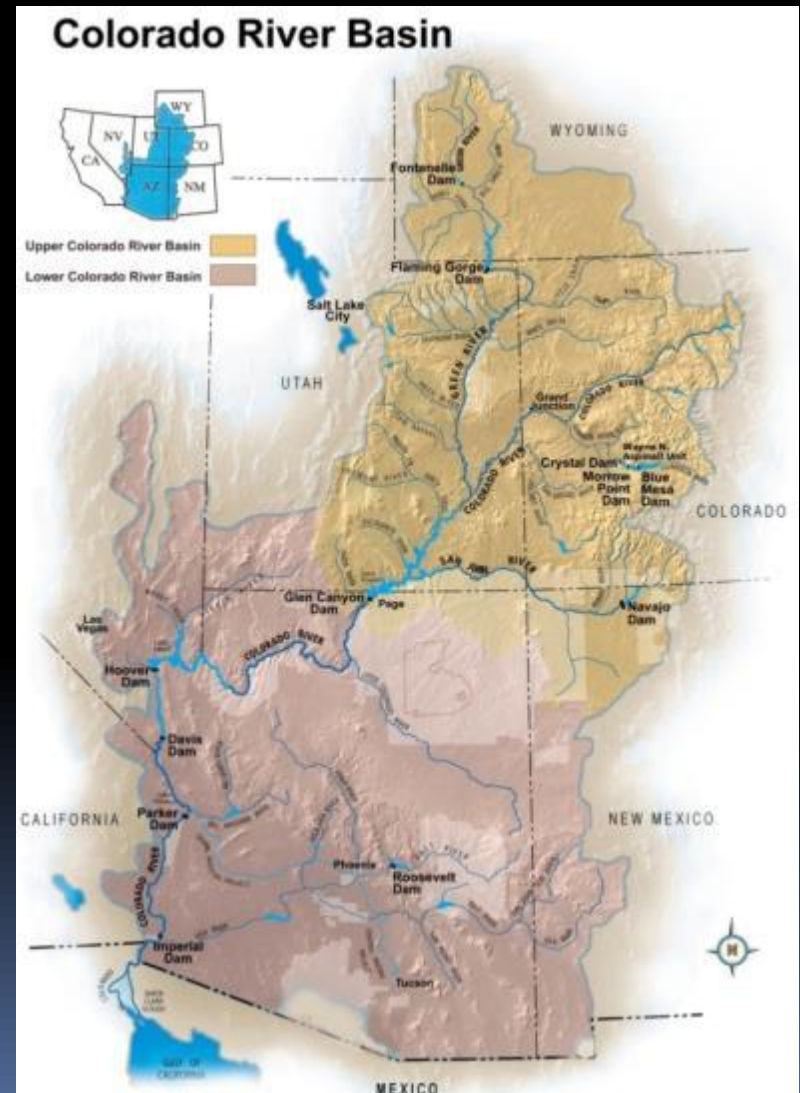
SNWA Impact Assessment and Adaptation Planning

- Colorado River
- Eastern Nevada
- Las Vegas Valley



Colorado River Basin Water Supply and Demand Study

- Assess future (50 yr) water supply and demand imbalances
- Assess risks to Basin resources
- Develop and evaluate opportunities for resolving imbalances
- Federal/State/Stakeholder Collaboration & Cost Share



Impacts of a Changing Climate on Water Resources in Eastern NV

- Review existing meteorologic and hydro data
- Drought Investigation Using Proxy Records
- Select GCMS and downscale grids
- Scenario-Based Future Projections
 - Climate Projections
 - Climate Change + Inferred Droughts



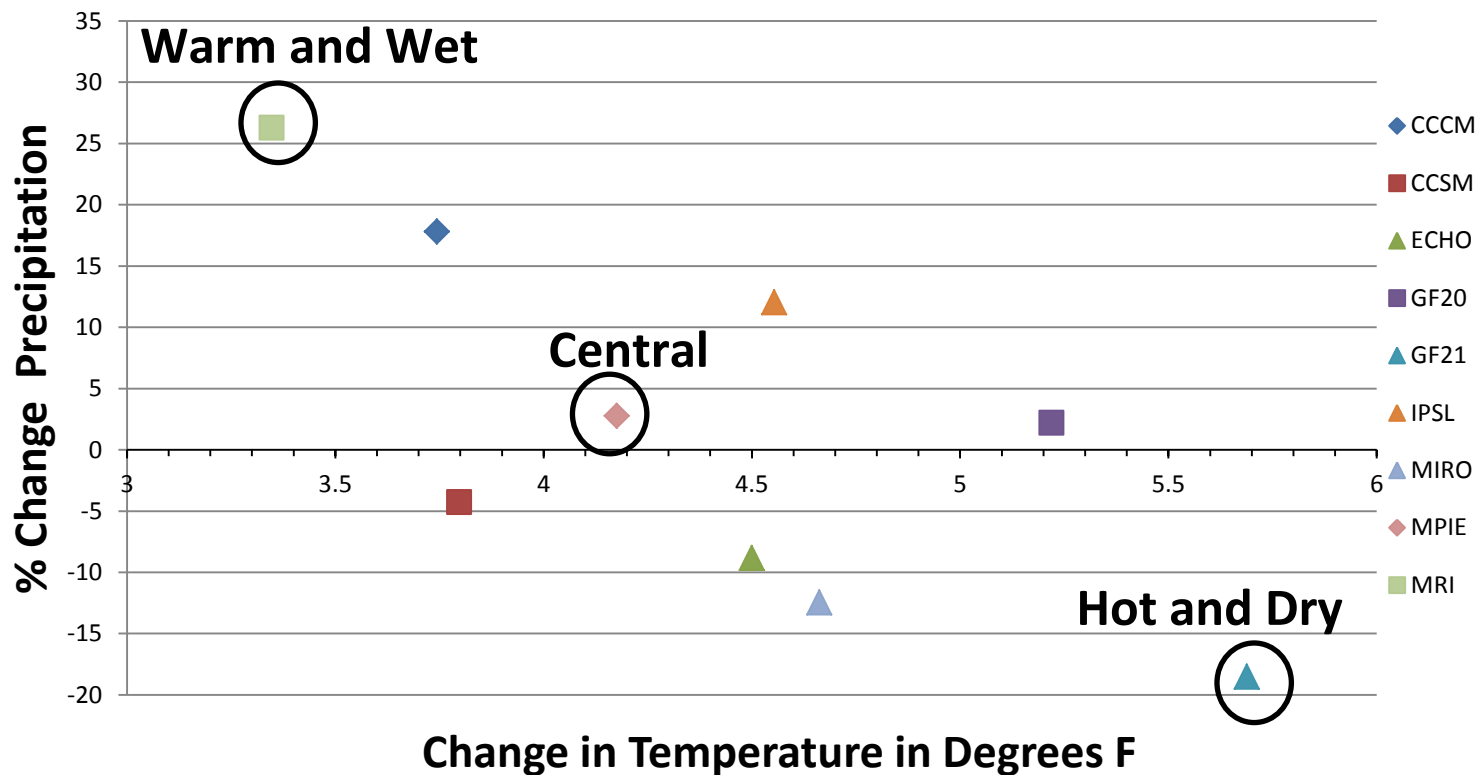
Source: Abatzoglou et al., 2012

Impacts in Las Vegas, NV



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Resources Help



Resilient Communities

Southern Nevada Inventory of Sustainable Systems



Community Stakeholders

- 18 regional public, private, and academic organizations, representing a broad cross-section of the community are providing a letter of support to continue work:

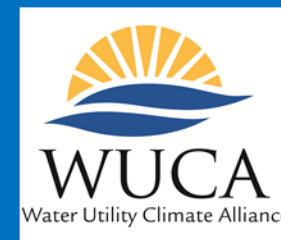


Water Utility Climate Alliance Activities

Water Utility Climate Alliance

www.wucaonline.org

43 million drinking water customers



Mission Statement

The Water Utility Climate Alliance provides leadership in assessing and adapting to the potential effects of climate change through collaborative action. We seek to enhance the usefulness of climate science for the adaptation community and improve water management decision-making in the face of climate uncertainty.

Piloting Utility Modeling Applications (PUMA)

- Five Utilities
- Climate Rep
- Modeling Advisory Committee (MAC)

Goals

- Identify available climate tools (GCMs and downscaled data)
- Use in “Chain of Models”
- Given large ranges in outputs, how useful are these tools in planning?
- Build regional relationships
- Articulate adaptation community research needs

http://www.wucaonline.org/html/actions_puma.html

Climate Change Planning Webinar Series



CRWU and WUCA Webinar Series

Topic	Date
Scenario Planning to Support Decision Making	<i>November 6, 2013</i>
Robust Planning to Support Decision Making	<i>December 4, 2013</i>
Bottom-up Threshold Analysis to Support Decision Making	<i>March 19, 2014</i>
Communicating Climate Change	<i>Spring 2014</i>
Financing Adaptation	<i>Spring 2014</i>

- Additional topics and dates under consideration
- Visit <http://www.epa.gov/climateredyutilities> for updates and archived presentations

Flexible and Adaptive Regulations

- Natural systems are changing
- Adaptation is required to meet challenges of climate change
- Regulations must be adaptable and flexible to solve problems in the context of climate change





LOCAL, REGIONAL TO NATIONAL LEVEL

- Research
- Collaboration/Partnership
- Resources & Facilities
- Policy Considerations

QUESTIONS?

